**AstroBoost – Print Tray Activities – Risk Assessment**

**Activity outline:**

Supervised indoor/outdoor activity using print tray to hide warmed objects which are visually hidden by material but revealed using an IR camera, with option for output on screen or via projector. Capacity for people to play with camera/magnets etc outside the planned activity. This activity includes choke hazards and so must not be left unattended where young children might gain access.

**Version:**

Original pro-forma as supplied by RAS, this is not a complete document and should be amended as required for each context. You may wish to develop different versions (eg indoor vs outdoor) to avoid this document becoming long and difficult to read. You can change the format, remove the branding, edit as you choose, but you must keep written copies of adequate risk assessments for any activity delivered within the AstroBoost project. Control measures should all be necessary, and practical to be followed at all times.

**This document version is a pro-forma risk assessment provided as a starting point for your own assessment**

The Royal Astronomical Society is unable to offer a thorough risk assessment that would apply for any delivery team in any situation, and therefore this document is intended only as a starting point for any organisation preparing to deliver the activities, to help speed the process and reduce the chance of unidentified risks.

The person responsible for H&S at each event should:

1. Review whether any changes are necessary for that specific event (eg due to differing experience of delivery staff, unusual audiences, venue or weather)
2. Ensure everyone involved in delivery of the activity has read, understood and agreed to follow the control measures in the risk assessment
3. Update the risk assessment after the event in light of any newly-identified risks, near misses or accidents that occurred during delivery
4. Inform the Royal Astronomical Society if any additional risk rated 10 or higher is identified where this risk is not specific to an unusual audience/venue

Name of organisation:

Name of person signing off this version of the risk assessment:

Date of sign-off: Date for review:

**AstroBoost - Print Tray Activities – Risk Assessment**

Risk: 1 = trivial; 2 = minor; 3 = requiring time off work; 4 = long term injury; 5 = death

Likelihood: 1 = rare; 2 = unlikely; 3 = occasional; 4 = regular; 5 = frequent

Risk rating: Gives a quick guide to which risks should be subject to tighter control measures. Ratings of 12 or higher are unacceptable under any circumstance.

**General items:**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Object/activity (the hazard) | Who might be harmed, and how? | Control measures (protocols you will follow to reduce the risk) | Risk (worst possible harm) | Likelihood | Risk rating |
| Venue as presented on arrival | Various. For example:  Uneven floor – slips  Clutter – tripping / cuts  Electrical safety – shock | On arrival, visually check the room for any hazards over those addressed on this risk assessment. Identify required control measures. If the space is unsafe for audience or presenter, do not proceed.  For outdoor venues, check that electrical power supply is appropriate for outdoor use. | 5 | 1 | 5 |
| All electrical items | All, but especially the presenter.  Electric shock. | Visual check of power supply, cables and electrical items. Do not use if damaged.  Items connected to the mains supply must be off-the-shelf undamaged/adapted electronics, or have been PAT tested. | 5 | 1 | 5 |
| All electrical cables | All, but especially the presenter.  Tripping, falling, hitting head. | Tuck all cables out of the way or use cable cover. Use extension leads where required. | 5 | 1 | 5 |
| All objects | All. Trip/slip hazard. Falling, hitting head. | Objects to be kept on or under furniture where possible. Unsupervised objects to be kept out of walkways. Other objects to be clearly signposted. | 5 | 1 | 5 |
| Heavy objects (including print tray, and laptop computer if used) | All. Dropping onto foot or onto small child.  Striking person, bruising. | Heavy objects not to be held over small children!  Presenter to stop anyone from uncontrolled/dangerous brandishing of objects that may cause harm. | 3 | 1 | 3 |
| Any object that would fit inside a cylinder 32mm wide and 58mm long.  Includes ball-bearings and plastic stars. | Children, especially under 3yr. Potential choke hazard. Choking, death. | Not including objects that have been tested using a choke tester and passed as a non-hazard.  All such objects to be supervised, kept in containers or otherwise out of reach of children under 3yr. | 5 | 1 | 5 |

**Activity-specific items:**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Object/activity (the hazard) | Who might be harmed, and how? | Control measures (protocols you will follow to reduce the risk) | Risk (worst possible harm) | Likelihood | Risk rating |
| Heat pad (for heating objects to be viewed with infra-red camera) | All, but especially the presenter. Burns to skin  Burns to objects, fire, smoke creation/inhalation  [Damage of objects, eg if placed upon an object with a low melting temperature] | Beurer HK35 heat pad to be used. This is designed for use against skin, with safety cut-off\* if temperatures get dangerously high.  The pad should be considered to be at a temperature of 50°C and treated accordingly.  [\*The pad should not be folded, compressed or covered while in use. This means eg that ball bearings should not be piled up, but rather have their weight spread. Else safety cut-off may occur, requiring factory reset.] | 1 | 2 | 2 |
| Infrared camera | All, but especially audience members over 11yr and especially women with thin clothing.  The camera may highlight hot/cold areas of the body or those covered by differing layers of fabric, including breasts and groin areas.  Embarrassment / anxiety. | This activity does not involve pointing the camera at bodies. However, people using the camera are very likely to want to experiment with it in this way.  Activity supervisor to stop anyone who is using the camera in a way that could embarrass others. If output is onto a larger screen, this should be more closely monitored. | 2 | 2 | 4 |
| Bin bag | Asphyxiation / fainting leading to head injury, during or after event. | Material is not presented as a whole bag, so that people cannot place it over their head. | 5 | 1 | 5 |
| Print tray | Splinters, small cuts, infected wounds | Tray to be checked for splinters before use, and these removed. If injuries do occur, risk assessment should be updated to encourage users to use magnet to remove ball bearings. | 2 | 3 | 6 |
| Ball bearings | Thrown, striking in face/eye. | Activity supervisor to ensure ball bearings are not thrown. |  |  |  |
| Magnets | Effect on body implants including pacemakers and cochlear implants.  Pinch injuries. | Magnets must not be strong enough to cause a pinch injury when attracting ball bearings.  Magnets to be clearly identifiable as such (eg labelled, verbally identified, or having traditional colour scheme and N/S labelling). | 1 | 1 | 1 |
| Objects provided by the audience | Various | Activity supervisor to dynamically assess risk relating to other objects/behaviours that are introduced to the activity, and to introduce control measures or stop activities as appropriate. | 2 | 5 | 10 |

**AstroBoost activity – Print Tray Activities – RA sign off**

This activity will be delivered many times. Although some risks are unlikely, anything that can happen *will* happen eventually. By following the control measures, the overall risk for long-term delivery over multiple events with multiple presenters is reduced to an acceptable level. When accidents doinevitably happen, it can be demonstrated that risks had been identified and managed appropriately.

If you feel any measures are not necessary, or are not being followed in practice, please check with the event leader to discuss the removal or amendment of that item.

Please sign below to confirm that you have read and understood the risk assessment and that you will follow the control measures as directed by this document.

|  |  |  |
| --- | --- | --- |
| **Name (print clearly)** | **Signature** | **Date** |
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